

WHAT IS CLAIMED IS:

1. An inventory management system comprising:

an electronic device operable to receive job data in a selected one of a plurality of
5 available input modalities;

an inventory database operable to store inventory data that includes count information
and location information for each of a plurality of items; wherein the inventory data is
accessible in a plurality of formats, each of the formats being compatible with one of the
available input modalities;

10 a format determination system operable to input inventory data in a received one of
the formats and determine corresponding inventory data in remaining ones of the formats;
and

a server operable to receive the job data in the received format, communicate with the
format determination system to determine the remaining formats, and output updated
15 inventory data to the electronic device for response thereto in any one of the available input
modalities, such that the inventory data is maintained during performance of inventory
management tasks.

20 2. The system of claim 1 wherein the job data is related to a task performed by a
worker in a warehouse, and the inventory data includes a listing of a subset of the plurality of
items to be distributed, selected, or counted by the worker.

25 3. The system of claim 2 wherein the updated inventory data includes a revision
of the listing, based on the job data and reflecting an action of the worker in performing the
task.

4. The system of claim 2 wherein a first input modality of the plurality of input
modalities is associated with an auto-identification signal for identifying a distributed,
selected, or counted item associated with the task.

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5. The system of claim 4 comprising a container carried by the worker that is
equipped with a reader for reading the auto-identification signal.

6. The system of claim 1 wherein the electronic device includes a mobile device carried by a worker in a warehouse during performance of the warehouse management tasks.

5 7. The system of claim 1 wherein the electronic device includes a stationary device that is co-located with one of the plurality of items.

8. The system of claim 1 further comprising:

10 a first gateway associated with a first input modality of the plurality of input modalities associated with a first format of the plurality of formats; and
a second gateway associated with a second input modality of the plurality of input modalities associated with a second format of the plurality of formats,

15 wherein the server is further operable to communicate with the electronic device through the first gateway and the second gateway, such that the job data, inventory data, and updated inventory data are synchronized across the first input modality and the second input modality during communications between the server and the electronic device.

9. The system of claim 8 wherein the first input modality is associated with voice inputs and the first format includes Voice Extensible Markup Language (VXML).

20 10. The system of claim 9 wherein the second input modality is associated with Radio Frequency Identification (RFID) signal inputs and the second gateway includes a RFID gateway.

25 11. The system of claim 9 wherein the second input modality is associated with a Hyper Text Markup Language (HTML) page, and the second format is HTML.

30 12. A method of providing warehouse management comprising:
providing a first input modality and a second input modality;
receiving job data in a first format consistent with the first input modality;
generating inventory data in the first format in response to receipt of the first data;

corresponding the inventory data to analogous inventory data in a second format consistent with the second input modality; and

outputting the inventory data and the analogous inventory data for response thereto in the first input modality and the second input modality, respectively.

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13. The method of claim 12 wherein providing the first input modality and the second input modality comprises communicating the first input modality and the second input modality to a mobile device carried by a warehouse worker while performing a task associated with the job data.

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14. The method of claim 12 wherein providing the first input modality and the second input modality comprises providing the first input modality to a mobile device carried by a worker in a warehouse while performing a task associated with the job data, and providing the second input modality to a stationary device co-located with an item stored in
15 the warehouse at a storage location.

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15. The method of claim 14 wherein the stationary device includes a display screen associated with the storage location.

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16. The method of claim 14 wherein the stationary device includes a sensor associated with the storage location.

17. The method of claim 12 wherein the first input modality is associated with a Radio Frequency Identification (RFID) transmitter carried by a worker in a warehouse.

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18. The method of claim 17 wherein receiving job data includes receiving count information related to an item selected or distributed by the worker within the warehouse, the count information being detected by the RFID transmitter from an RFID tag associated with the item.

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19. The method of claim 12 wherein receiving job data comprises receiving information from a warehouse worker associated with a task performed by the warehouse worker.

5 20. The method of claim 19 wherein the task includes retrieving, distributing, or counting items to, from, or at a plurality of locations in a warehouse.

21. The method of claim 20 wherein generating inventory data comprises generating a listing of the items and their respective locations within the warehouse.

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22. The method of claim 21 wherein generating inventory data comprises updating an inventory database and the listing of the items, based on the job data as it is received from the warehouse worker through the first input modality or the second input modality.

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23. The method of claim 12 wherein the first input modality is associated with a voice input, and the second input modality is associated with one of a barcode input and a Radio Frequency Identification (RFID) input.

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24. A method of providing input for updating an inventory, the method comprising:

receiving, at an electronic device, identifying information that identifies a product to be placed into, or selected from, storage;

25 receiving location information in a first modality, the location information being received at the electronic device and indicating a currently-accessed storage location;

receiving placement input in a second modality, the placement input being received at the electronic device and indicating that the product has been placed into, or selected from, the current storage location; and

30 providing the placement input to a remote computer system for updating an inventory of the product.

25. The method of claim 24 further comprising providing an indicator of a storage location into which the product is to be placed.

5 26. The method of claim 25 wherein the indicator is provided using one or more of voice output and display output.

27. The method of claim 24 further comprising providing an updated inventory for the product.

10 28. The method of claim 24 wherein the placement input comprises input that multiple items were placed into the current storage location.

29. The method of claim 28 wherein the input that multiple items were placed comprises an indicator of a quantity of items that were placed.

15 30. The method of claim 24 wherein receiving identifying information comprises one or more of scanning a bar code and receiving a voice input.

20 31. The method of claim 24 wherein receiving placement input is in response to the product transmitting a signal.

32. The method of claim 31 wherein the signal comprises an auto-identification signal.

25 33. The method of claim 32 wherein the auto-identification signal comprises an RFID signal.

34. The method of claim 33 wherein the electronic device comprises a PDA and an RFID reader communicatively coupled together.

30 35. The method of claim 34 wherein the RFID reader provides the placement input to the remote computer system.

36. The method of claim 24 wherein receiving identifying information is in response to the product transmitting a signal.

5 37. The method of claim 24 wherein receiving location information in a first modality comprises receiving location information through either voice input or through scanning a bar code.

10 38. The method of claim 24 wherein receiving placement input in a second modality comprises receiving placement from either a stylus or a voice input.

39. The method of claim 24 wherein the electronic device comprises a PDA.

15 40. The method of claim 39 wherein the electronic device further comprises a voice input-output system communicatively coupled to the PDA.

41. The method of claim 40 wherein the voice input-output system provides the placement input to the remote computer system.

20 42. The method of claim 24 wherein the electronic device comprises a voice input-output system and an RFID reader communicatively coupled together.

43. A method of providing input for updating an inventory, the method comprising:

25 receiving location information at an electronic device in a first modality, the location information indicating a current storage location to be accessed;

receiving inventory input at the electronic device in a second modality, the inventory input indicating a quantity of a product that is stored in the current storage location; and

30 providing the inventory input to a remote computer system for updating an inventory of the product.

44. The method of claim 43 further comprising receiving at the electronic device identifying information that identifies the product.

45. The method of claim 43 wherein the electronic device is a mobile device.

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46. The method of claim 43 wherein the storage location is in either a store or a warehouse.